The Banking System and Credit Pipes Are Being Reshaped

Policy makers can stop a bank run, but not a repricing of deposits. Higher funding costs will cause the worst banks to fail or become zombies, and a systemwide drag on profits is likely to result in less credit availability and a pullback in duration demand that has helped clear the bond market.

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The problem facing the US banking system is not a bank run, which policy makers came out quickly to address with emergency liquidity and expanded FDIC guarantees. The problem is that many banks have a big duration bet that would be underwater if marked (which it isn't) and are only profitable if they are able to retain the extremely cheap deposits they got during the pandemic. Funding costs started rising late last year due to pressure from much higher-yielding alternatives like T-bills and money funds. The past two weeks were an acceleration as uninsured depositors got a wake-up call that will likely drive many to reconsider their cash management strategy and force banks to replace the funding at closer to market rates. We think this crisis will reshape the US banking system and credit pipes:

- If the current trajectory doesn't change, **a tail of the banking system will turn into zombie companies**. By this we mean that they will be losing money and steadily burning through their capital as they are stuck with long-duration, low-yielding assets that don't make sense in a higher-rate environment. Even though they aren't forced to mark these assets to market by accounting rules, they are still stuck with them and will face weak profitability and the need for more capital for a long time. A slowdown in the economy and a pickup in credit losses would be an even bigger drag on top of that.
- **The credit markets will need to find a new buyer of duration now that the banks (and the Fed) are out.** We see large continued long-duration bond issuance from the government, the GSEs, and other borrowers going forward. In recent years, the banks were a key piece alongside the Fed in taking down almost all the duration that was being issued. After this month's banking crisis, it seems likely that banks will not be eager to buy many bonds (and will probably over time let the ones they hold mature), either on their own initiative or due to regulatory changes. This means the bond market will need to find a new buyer.
- **We expect consolidation and retrenchment in the banking system.** The largest banks have been more tightly regulated and were the destination for many of the funds leaving regional banks. For banks whose business models become unviable, a sale to a larger entity may be the only available choice. These dynamics will impair the banks' ability to provide credit to the real economy and tighten credit standards, especially to niche sectors that were very dependent on relationships with smaller banks.

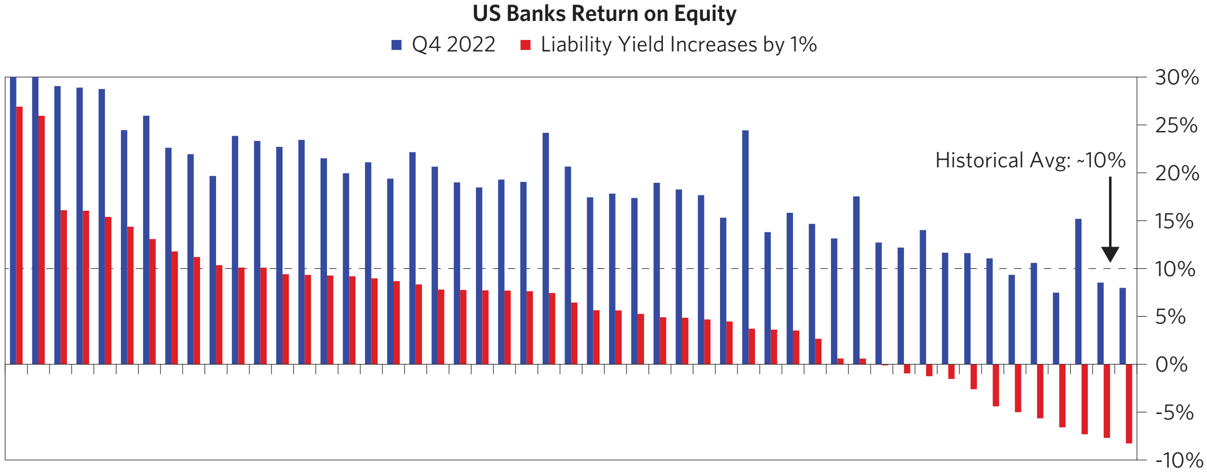
In the rest of this research, we explore these dynamics in more detail.

A Tail of the Banking System Will Face Significant Profitability Challenges and Turn into Zombie Companies

As a sector, banks have been generating a 10%+ return on equity since the pandemic, but those earnings have grown to rely on funding longer-duration, low-yielding assets with extremely low-yielding deposits. As a starting point for thinking through what it will look like as we exit that regime, we took the largest 50 banks (reflecting ~80% of the system by assets) and penciled in what would happen if each bank's funding costs rose from their current low levels by 100bps. This doesn't deal with the idiosyncrasies of each business's structure, the likelihood that such a move would happen, or the way that the banks would restructure, and is instead meant to give a sense of how a substantial tail of banks would become materially unprofitable.

Please note that in the following chart and throughout this research, we have removed the names of individual entities. We are not trying to focus on or be precise about individual entities' challenges and instead are focused on the sector's challenges.

US Banks Return on Equity



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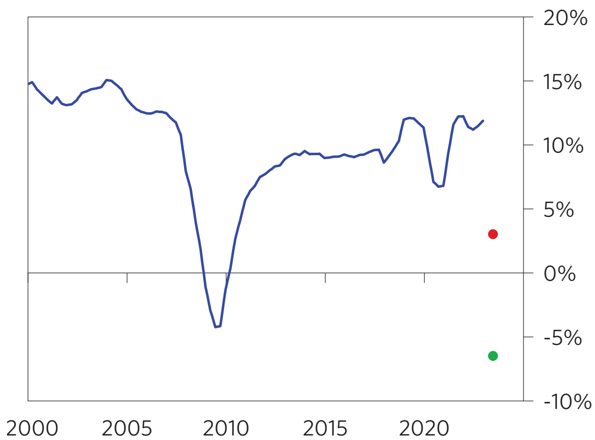
For reference, the charts below show the aggregate sector's return on equity and net income through time with the same 100bp (and an additional 200bp) shock to funding costs.

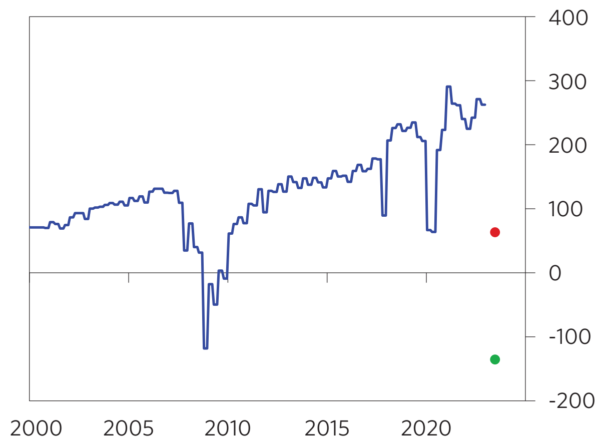
US Banks Return on Equity

Cost of Funding Rises 100bps



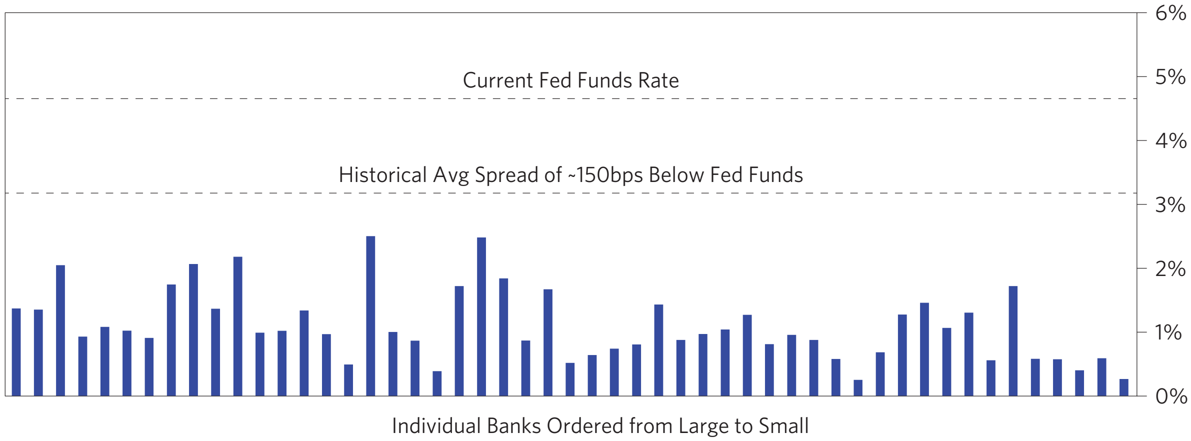
US Banks Net Income (USD, Bln)

Cost of Funding Rises 200bps

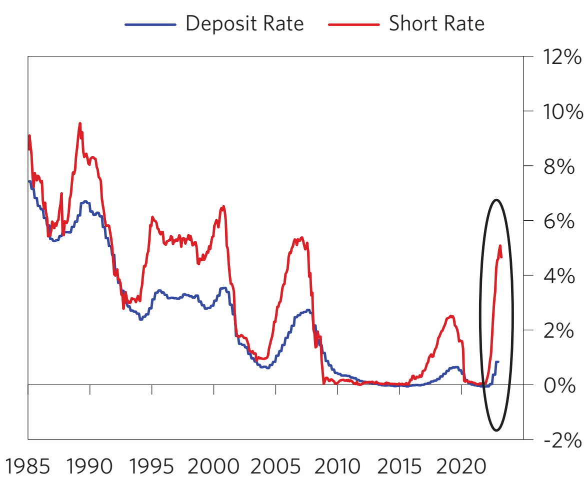


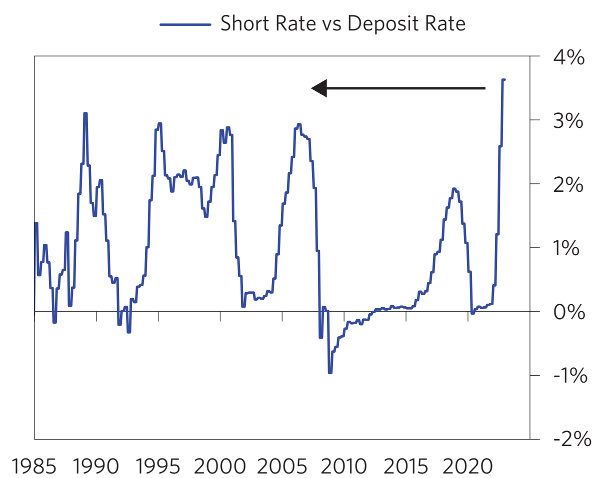
Bank funding costs averaged under 1% at the end of last year, with some banks still paying virtually nothing. Those costs started rising in the fourth quarter and have likely accelerated dramatically since. Bank deposit rates tend to lag and run well below market rates for a number of reasons, e.g., savers being indifferent, not having alternative products, or not wanting to go through the hassle of moving money. That gap has averaged around 150bps in recent decades, but you can see that the gap has been much larger than that for most banks recently. The recent focus on the risk to bank depositors means that many large deposit holders are likely to leave their institutions and force them to replace the funding, likely at closer to market rates. That is on top of a historically large rate pickup for moving to readily available products and much better technology making it easier to move money around.

Aggregate Cost of Funds as of Q4 2022

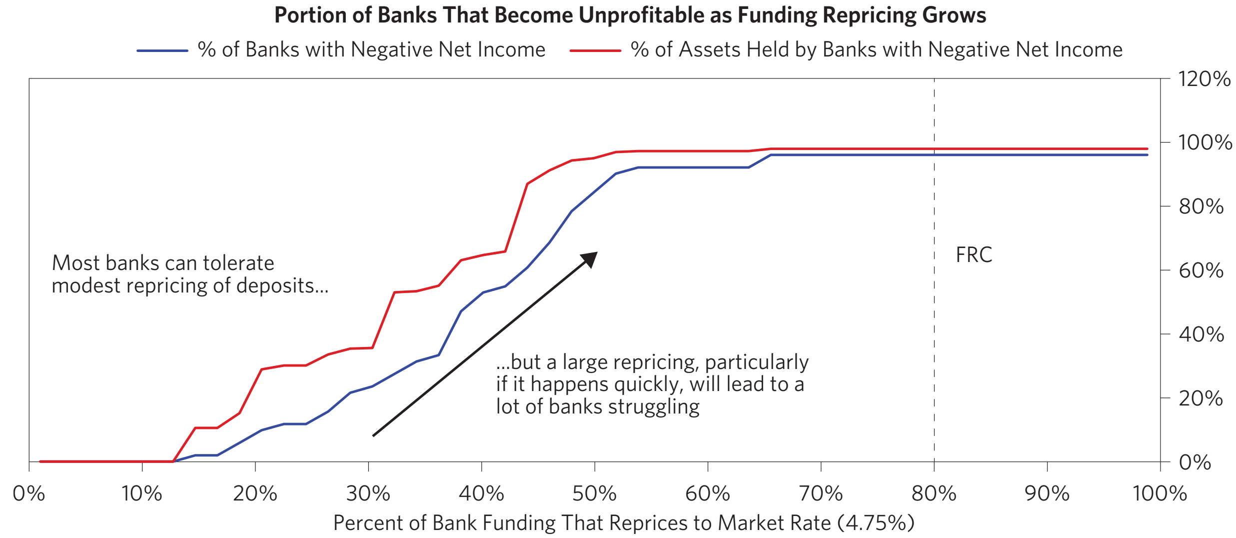


The gap between bank deposit rates and short rates is at its highest level in decades.





A few banks would become unprofitable if 10-20% of their funding left and they had to replace it with market rates, and virtually all banks would be unprofitable if they had to reprice half of their funding costs. Such strains are hard to imagine for most banks, but the pressures are extreme: First Republic had roughly 80% of its funding replaced with market-rate money from a combination of the Fed, the Federal Home Loan Bank System, and a consortium of other banks over the past week. That is a very severe stress and has made that bank clearly unprofitable under its current structure for a long time into the future as it holds long-duration mortgages that are unlikely to prepay anytime soon. The Fed and the FDIC have stepped in to stem the bank runs, and other entities look unlikely to suffer that fate as quickly, but we think it is probable that others are facing the same dynamic in various degrees.



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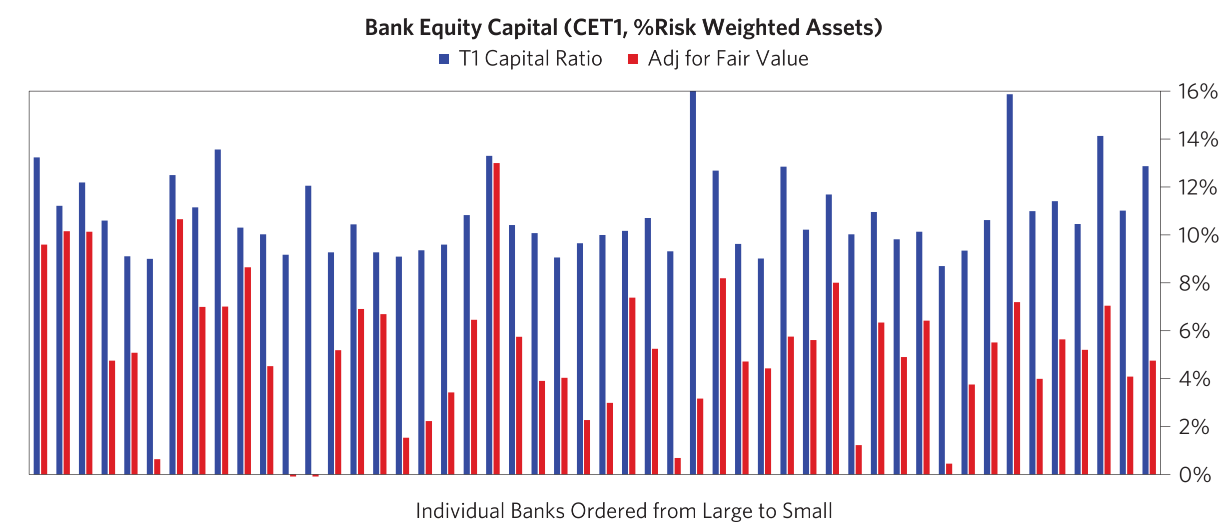
Thinking Through the Range of Banks That Will Be Most Affected

The likelihood of an individual bank getting into trouble in this way is a function of how much its business has relied on buying large amounts of long-duration assets funded by cheap, less sticky deposits. As we look across the banking sector, we've been trying to figure out how to measure and screen for such cases. We wanted to share our thinking without getting too much into the particulars of different banks' businesses, on which we are generally not experts, so again the below is shown with names removed.

One helpful perspective is how much banks would have to mark down their capital to fully account for changes in the fair market value of their assets. Banks report this information in their detailed financial statement but do not always have to flow through the changes to their top-line balance sheets. We show this in the chart below, which includes both the mark-to-market losses on securities and loans (e.g., jumbo loans), which need to be included to capture the similarity of holding a mortgage in security form via MBS versus holding as a loan. Several banks would have practically no Tier 1 common equity (CET1) if they were forced to mark their entire books to market, and many would be below the minimum level required by regulators.



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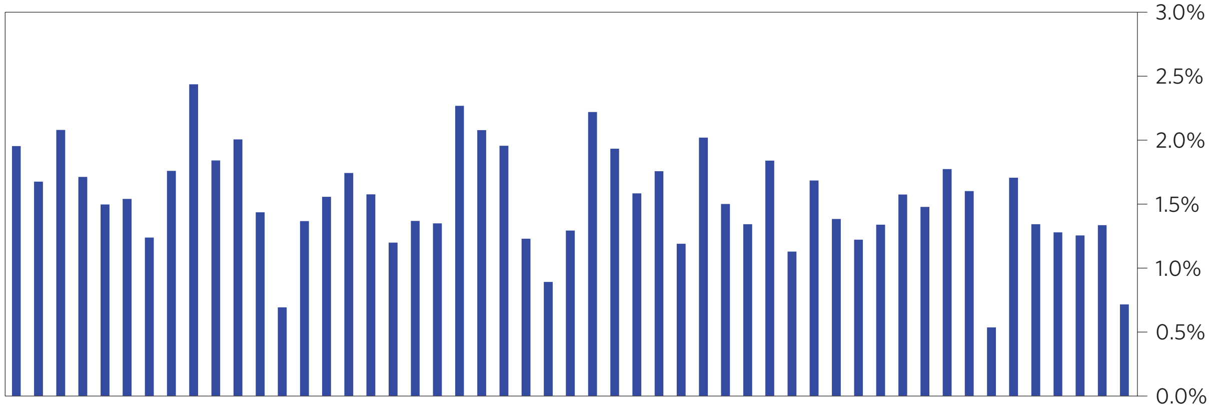
Another perspective on the same topic is the extent to which each bank's asset yield increased between the end of 2021 and the end of 2022 as the Fed hiked. This is measuring a similar concept to the above but on a cash flow basis rather than on a theoretical mark-to-market basis that the bank doesn't have to recognize. Bond yields rose hundreds of basis points in 2022, but some banks' asset yields rose by less than 1%.

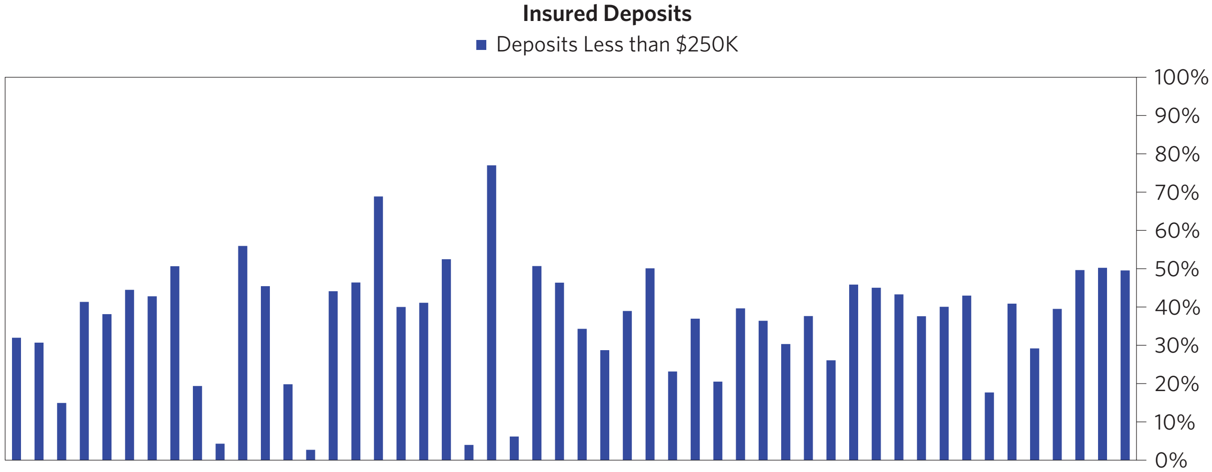
2021–22 Change in Asset Yield



Individual Banks Ordered from Large to Small

The current crisis was triggered by uninsured depositors realizing that their money was at risk and withdrawing it, forcing their banks to replace the cheap deposit funding with other higher cost sources. When thinking about what banks are most at risk of this dynamic, we also included different banks' proportions of their deposit base in insured (below $250K) deposits, some of which are extremely low.

Insured Deposits



Individual Banks Ordered from Large to Small

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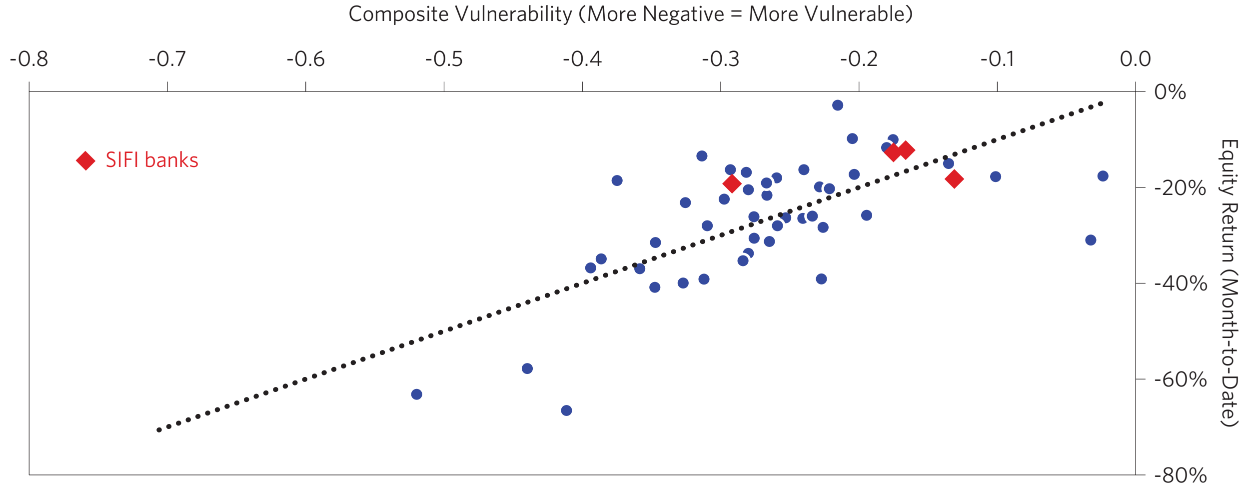
Markets have been reflecting that banks with these challenges are more vulnerable, which we highlight not to say that our read or the markets' reads are right, but instead to point out that these dynamics are becoming well-known and affecting how market participants are perceiving different banks, which in turn affects deposit stickiness and costs. Below, we put together a simple regression of the factors shown above against the month-to-date equity performance of the different banks in the sector. Rather than focusing on the particular names, we'd make the point that there are a number of banks that, at a quick glance, look like they are sharing the same problems as the ones in extreme duress, and if the current set of conditions continues, these are the types of institutions we'll be watching closely for signs of trouble. Note that this simple model probably overstates the risk for the big banks (SIFIs) that are experiencing deposit inflows, not flight.

Market Returns vs Composite Vulnerability



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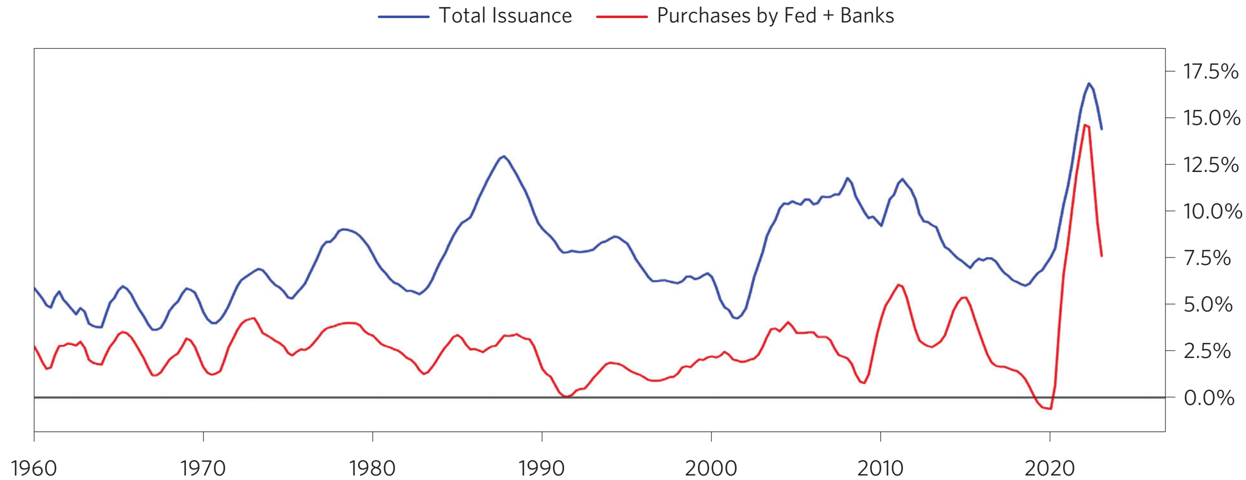
The Crisis Is Likely to Lead to a Pullback in Bank Purchases of Duration

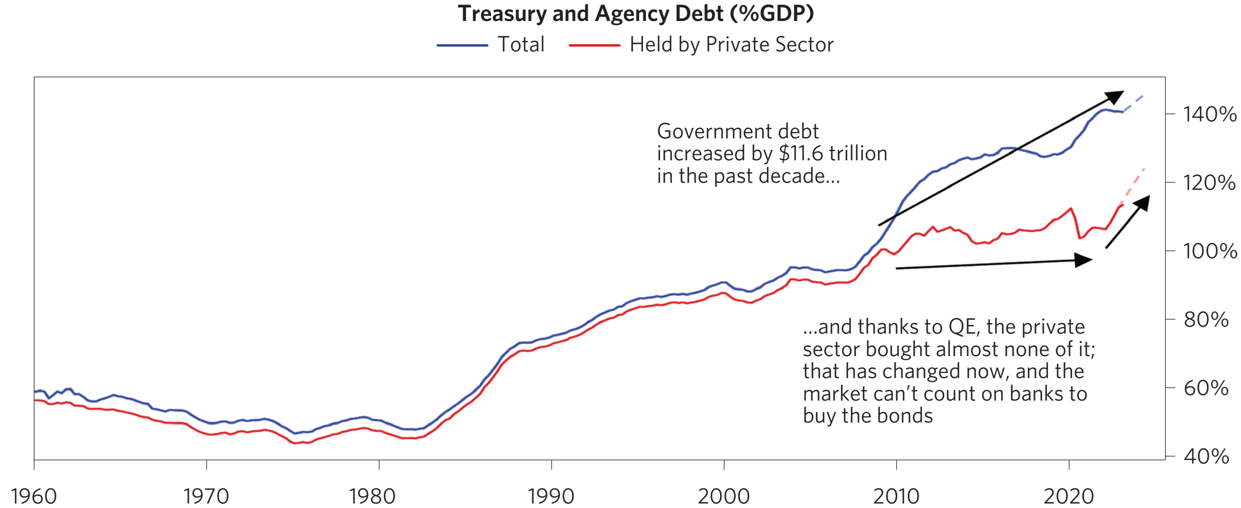
The pressures outlined above will likely lead to a pullback in activity by banks broadly, with the weaker banks especially squeezed and constrained. The most logical place for them to pull back from is buying duration. This is a big deal, as in the past few years, the banks combined with the Fed to purchase almost all the duration being issued by US borrowers (via treasuries, mortgages, and so on). At this point, the Fed is selling bonds as part of QT, and after the recent experience we wouldn't expect banks to be taking on much duration risk. There is also the chance for regulatory action, e.g., increasing capital required to be held against mortgages, or including in stress tests securities that are currently considered "risk-free," like long-duration treasuries.

USA Duration Supply/Demand (Trailing 2yr, %GDP)

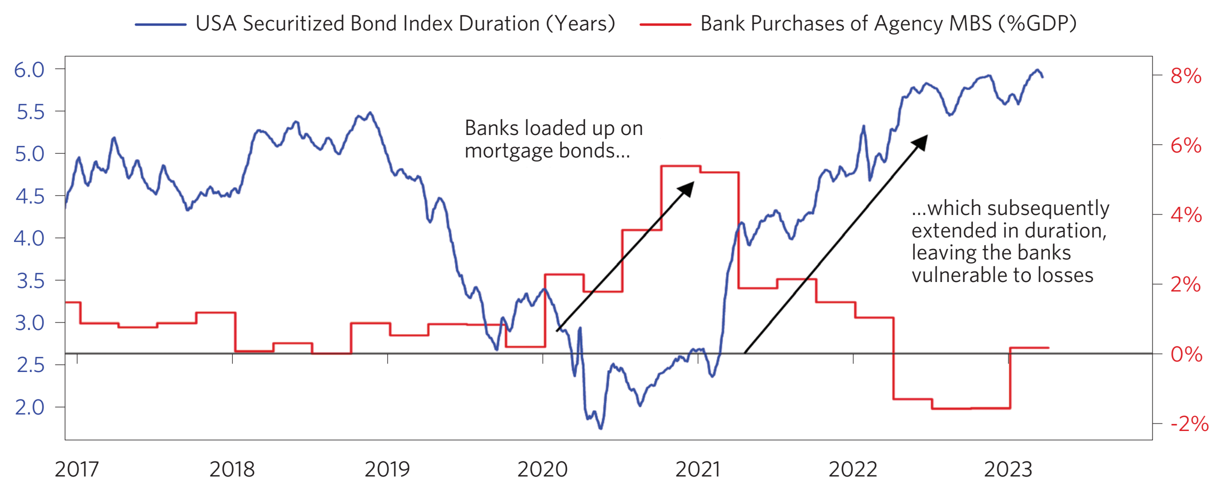


This pullback is coming at a time when the private sector will need to buy almost $2 trillion of government and government-backed debt a year. The past 15 years of QE from the Fed has meant that the private sector has had to absorb relatively little of the $11+ trillion in debt that the US government issued. With the Fed out and the banks out, a large slug of bonds will need other buyers.

Treasury and Agency Debt (%GDP)



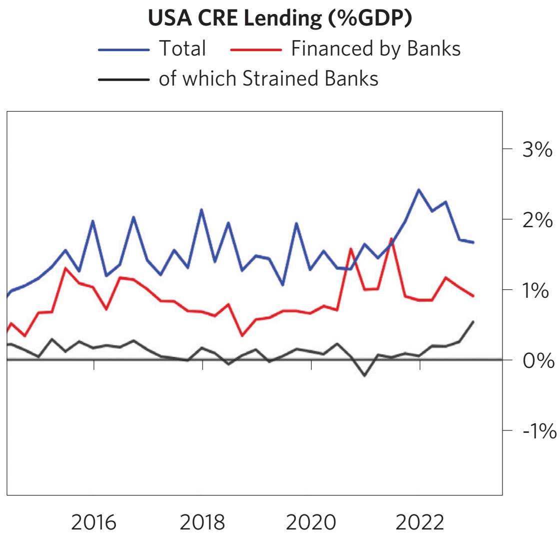
Further adding to the pain of the duration trade for banks is the extent to which they are exposed to mortgages. As rates have risen, the duration of US mortgages has greatly increased due to the dwindling chance that borrowers refinance their loans. That means that banks with a lot of mortgages made in 2020-21 at very low rates are likely to be stuck with those mortgages for a long time (or have to convince someone else to buy them for a low price and crystallize the loss).

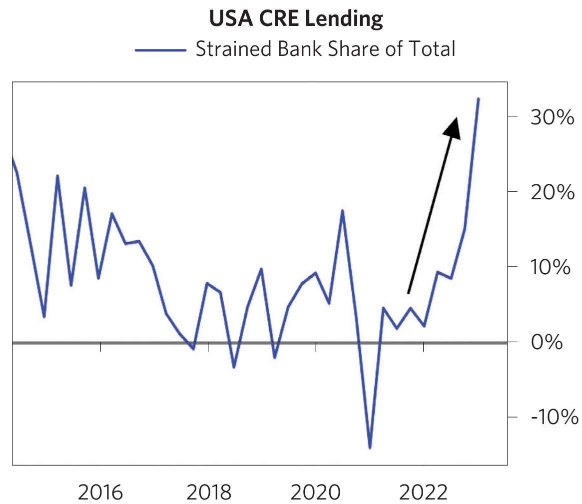


Consolidation and Zombification of Weaker Banks Will Cut Off Some Borrowers from Access to Credit

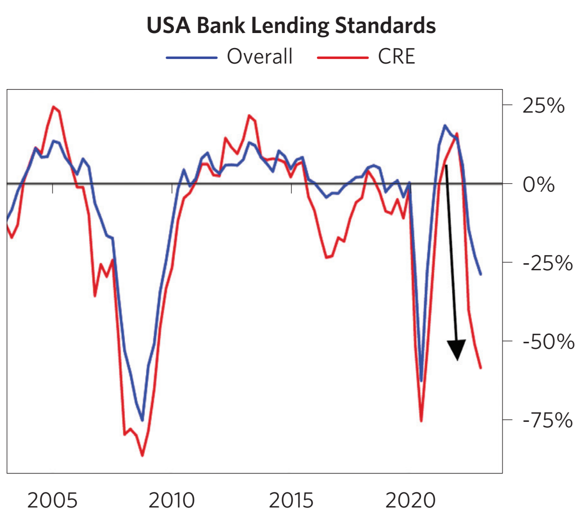
Consolidation is likely the least painful path for the weaker banks that are unprofitable or have mark-to-market capital problems. Because the system overall is well capitalized and the more problematic banks are relatively small, this path looks viable to us. The major question is what disruptions to the supply of credit the loss of some regional and/or community banks might present. From a pure credit capacity perspective, the consolidation doesn't look like a problem: the biggest banks have plenty of balance sheet capacity to make loans to borrowers who look good enough (though there will be fewer of these than before in today's environment of tightening standards). That said, the lending calculus won't necessarily be simple, as borrowers in specialized or concentrated industries (for example, the software companies and vineyards served by Silicon Valley Bank) or small businesses with less of a track record may have a harder time demonstrating creditworthiness to the bigger lenders who are less familiar with these businesses' markets or assets. This dynamic will sort itself out over time as new players step in, but until that happens the flow of credit is likely to be gummed up.

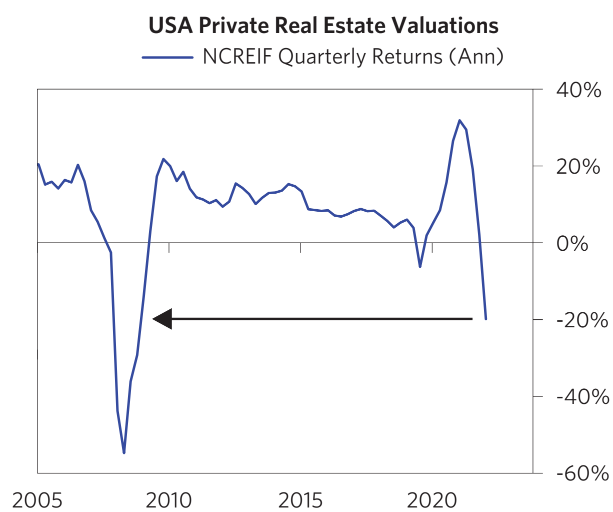
Commercial real estate lending, which is often relationship-based and makes up a more concentrated portion of most smaller banks' portfolios, looks particularly likely to be affected in this way. Coming into this period of stress, the group of at-risk banks had been ramping up lending to the corporate sector, particularly in CRE lending. The largest banks, in contrast, were pulling back from the sector, and the pace of securitization in the CMBS market was also slowing. Regional banks snapped up the business. Part of the reason they were able to outcompete the large banks in this segment was that in 2018 a regulatory rollback exempted banks with $100-250 billion in assets from the Fed's annual stress tests. In its latest round of these stress tests, the Fed included an extremely harsh scenario for commercial real estate prices (a 40% decline over two years), which likely limited the largest banks' risk appetite in the space.





Just as these banks were ramping up their lending, CRE fundamentals were beginning to worsen. Bank lending standards tightened broadly in the fourth quarter, but much more so in CRE than overall, and private real estate valuations declined by the fastest pace since the financial crisis. Now that regional bank asset exposures are under the microscope and their cheap deposit funding is at risk of fleeing to safer alternatives, it seems very likely that they will curtail their lending, perhaps sharply. Given the guidance from the Fed and the picture of weakness in the CRE sector, it seems unlikely that large banks will step in to fill this gap.





In other lending segments, it's hard to predict how much large banks or other lenders may be inclined to pick up the slack from a pullback by regional banks. Niche markets like the tech/venture space served by Silicon Valley Bank may have trouble finding a new source of financing, but that may be a somewhat unique situation. On the other hand, jumbo mortgage lending—where underwriting standards have been very robust—and traditional commercial and industrial lending should be relatively easier for large firms to absorb, at least for borrowers with strong credit quality. In tomorrow's research, we'll discuss the implications of the pullback in credit for the US economy in more detail.

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